



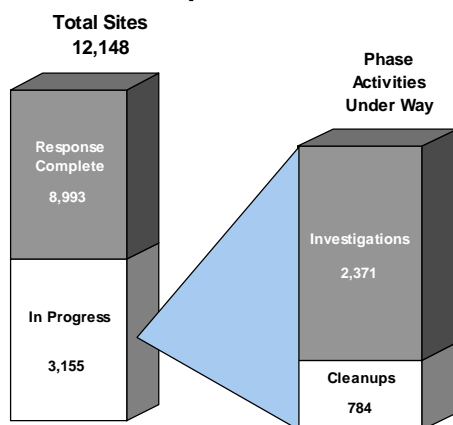
# ARMY

## Cleanup Status and Progress

*"The Army is moving ahead with restoration, and gaining efficiencies as we progress. Our commitment is to partner with stakeholders, develop new ideas for improving the sequencing of site cleanups, and use independent technical reviews to make the program more focused and more effective."*

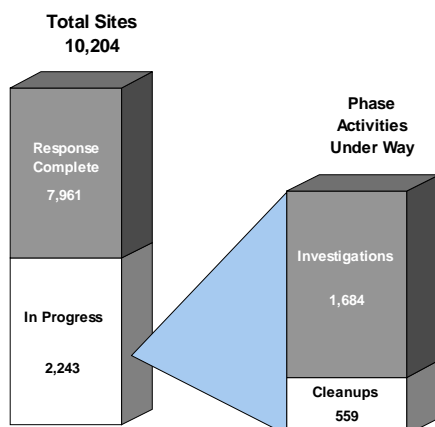
— RAYMOND J. FATZ, DEPUTY ASSISTANT SECRETARY OF THE ARMY

### Active and BRAC Site Status as of September 30, 1998

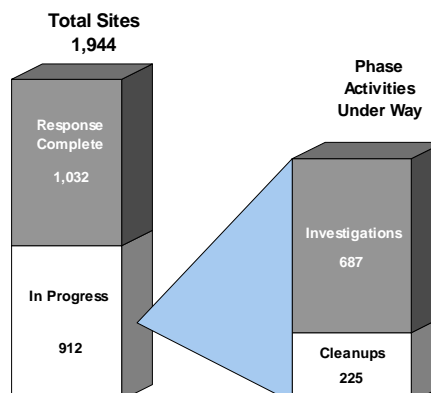


In fiscal year 1998 (FY98), the Army completed its transition from centralized to decentralized execution of the Army cleanup program at operating installations. Under the new decentralized regime, Army Major Commands have responsibility for all program planning, budgeting, and execution. Specific responsibilities include establishing program and project priorities, sequencing project execution, and allocating funding among installations and sites. Before decentralization, the Army Headquarters and the Army Environmental Center centrally managed these

### Active Site Status as of September 30, 1998

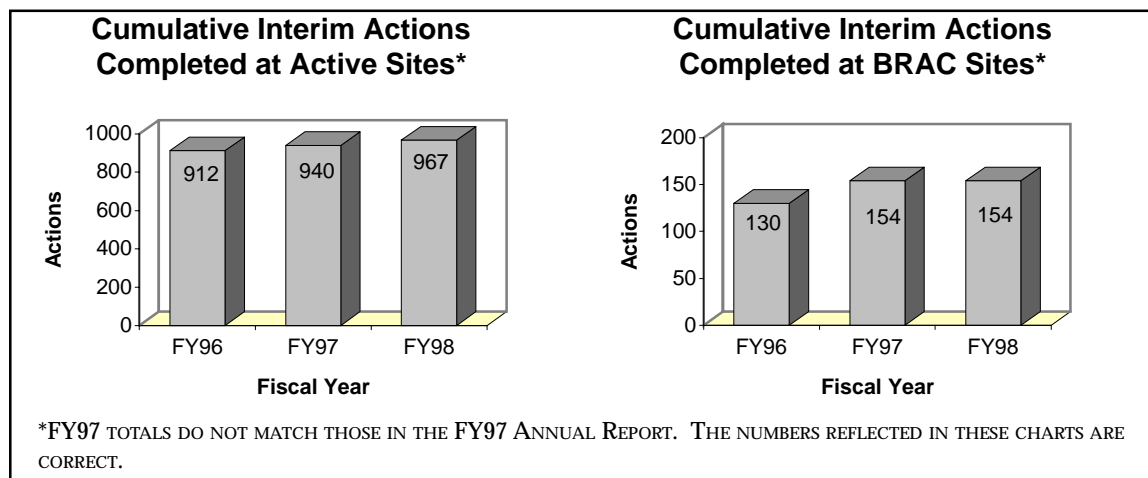
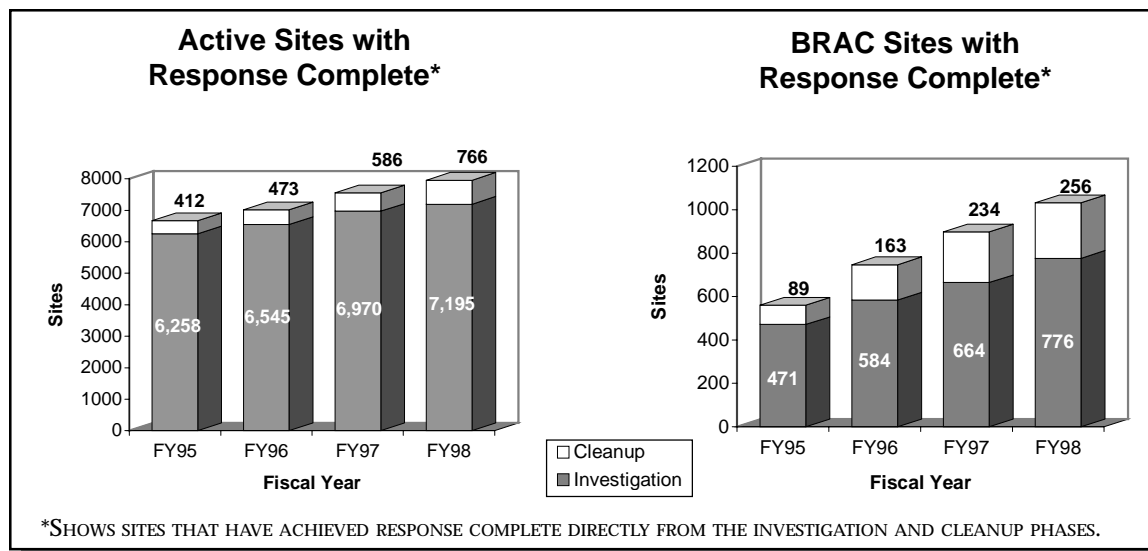


### BRAC Site Status as of September 30, 1998



functions. The full advantages of the FY97 separation of the central Defense Environmental Restoration Account (DERA) into Service-led accounts, including the Army Environmental Restoration (ER) account, and decentralized execution also have allowed Army program managers to identify and shift management focus to initiatives that will produce long-term benefits. These initiatives, which are described below, will continue to ensure protection of human health and the environment and compliance with statutory requirements and agreements, while emphasizing cost-effectiveness and completion of site cleanup.

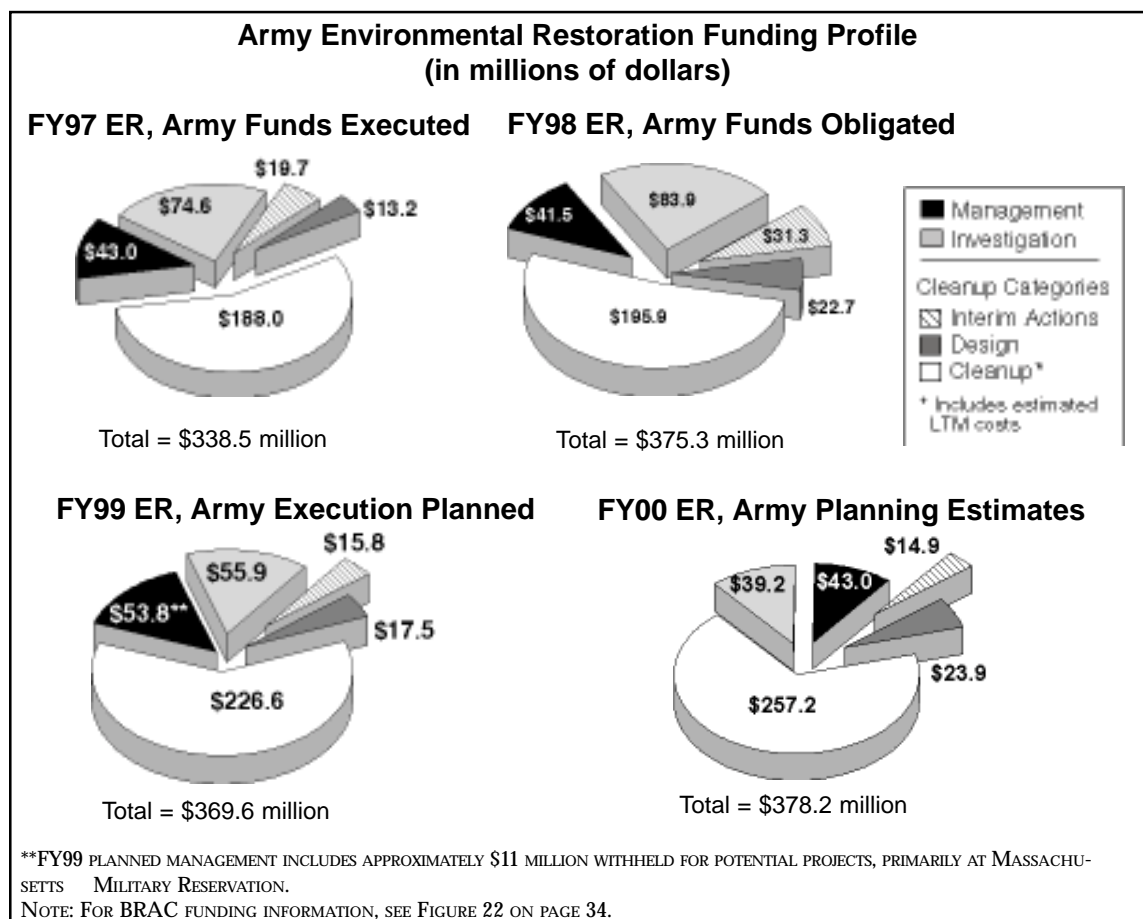
To date, the Army has identified 10,204 potentially contaminated sites at 1,076 active installations. Of these sites, 7,961 require no further action, except long-term monitoring. Restoration activities are planned or under way at 2,243 sites. The Army has completed final remedy construction at 844 sites, 66 of which require Remedial Action Operations. In addition, through FY98 the Army completed 967 interim actions at 629 active installation sites. In FY98, 405 sites that were undergoing studies or cleanup were determined to be completed and to require no further action. Eight installations, excluding U.S. Army Reserve Centers, achieved remedy in place or response complete status at all sites.



Restoration activities are in progress at most of the 112 installations that are being closed, and at the 27 installations that are being realigned, under the Base Realignment and Closure (BRAC) 1988, 1991, 1993, and 1995 rounds. To date, the Army has identified 1,944 potentially contaminated sites at 117 BRAC installations. Of these sites, 1,032 require no further action except long-term monitoring. Restoration activities are planned or under way at 912 sites. The Army has completed final remedy construction at 278 sites, 12 of which require Remedial Action Operations. In FY98, studies and cleanups were completed at 134 BRAC sites, and these sites require no further action. Thirty-nine BRAC cleanup teams have been formed to support fast-track cleanup at installations where there is excess property. At all other BRAC locations, the Army has appointed a point of contact for fast-track cleanup. In FY98, the Army completed all Environmental Baseline Surveys for installations affected by the 1995 BRAC round.

## Goals and Priorities

The Army continues to refine its cost estimates for completing cleanup of its hazardous waste sites. Each year the cost to complete cleanup of all hazardous waste sites has declined by more than the amount spent on cleanup. Examination of cleanup assumptions and validation of data from ongoing cleanup sites now reveal a total projected cost-to-complete of \$7.9 billion: \$6.5 billion for installation restoration (IR) at active bases and \$1.4 billion for IR at BRAC installations. This total is \$1.2 billion less than last year's cost-to-complete estimate.



In the BRAC environmental restoration program, the Army is focusing on making property environmentally suitable for transfer. In addition to addressing imminent threats to human health and the environment, the BRAC program emphasizes property reuse potential in establishing cleanup priorities.

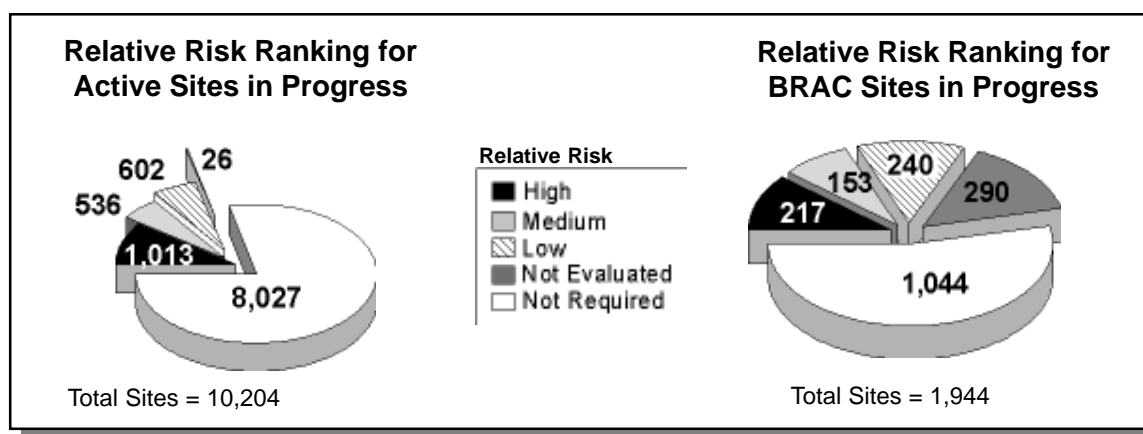
The Army also continues its work on developing a DoD Range Rule covering response actions for unexploded ordnance and other constituents of munitions at ranges that have been closed or transferred or are undergoing transfer. The Range Rule must ensure that the Department of Defense (DoD) is responsive and responsible and must include a process for conducting range responses that fall within DoD's authority.

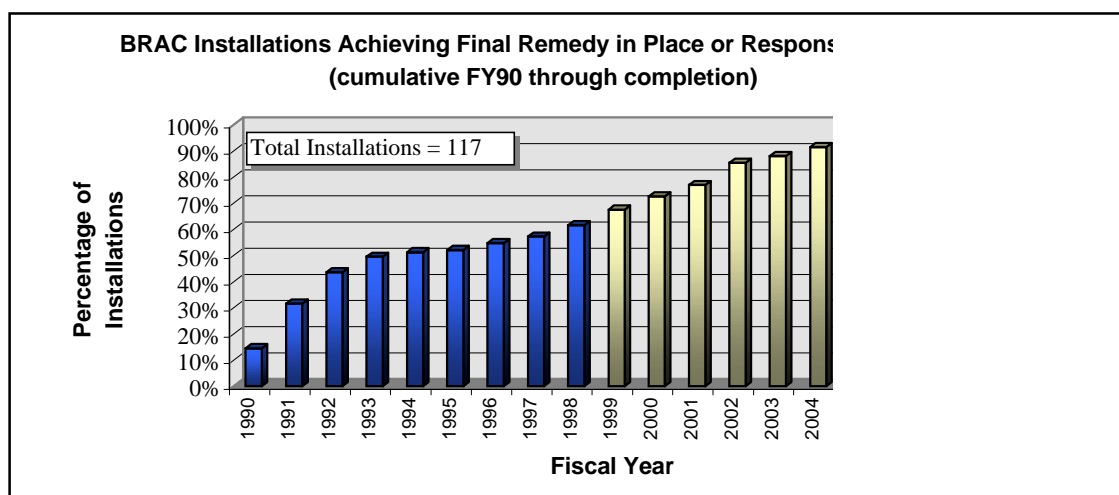
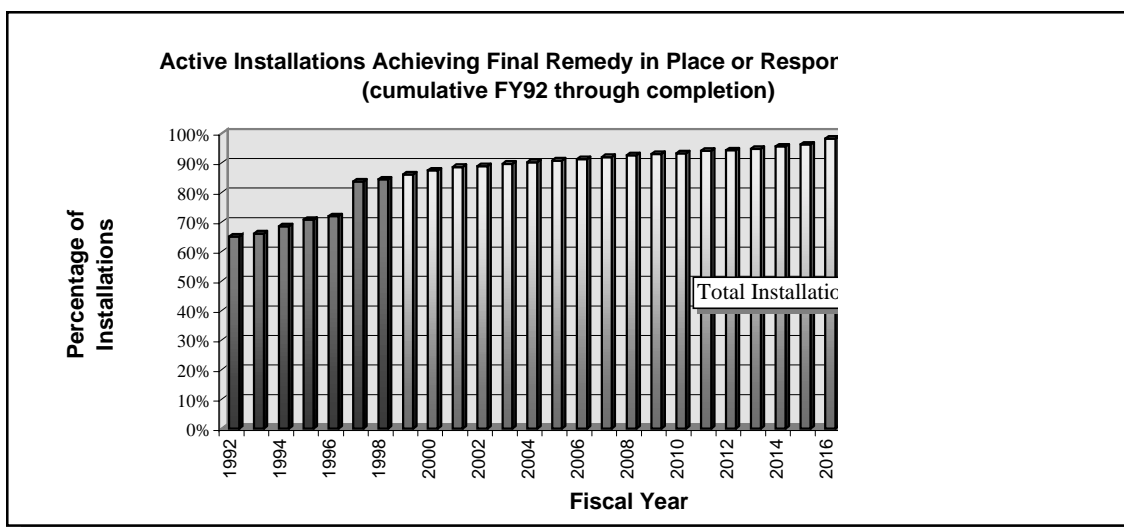
The initial impetus for the Range Rule occurred in 1992. In that year, the Federal Facility Compliance Act of 1992 amended the Resource Conservation and Recovery Act (RCRA), requiring the U.S. Environmental Protection Agency (EPA), in consultation with DoD, to promulgate regulations identifying when conventional and chemical military munitions become hazardous waste subject to RCRA Subtitle C regulations. In the same year, the Office of the Secretary of Defense directed the Army to develop the DoD Range Rule. The rule will specify procedures to ensure safety and protect human health and the environment and should result in cost-effective responses.

During FY98 the Army received and summarized approximately 250 pages of public comments on the proposed Range Rule that was published in the *Federal Register* (62 FR 50795) on September 26, 1997. Preparation of responses to these comments is ongoing. DoD expects to revise the Range Rule in response to the comments and to finalize the rule by summer 2000.

## Program Accomplishments

In FY98, the Army reduced the number of active installation sites that had not been evaluated for relative risk from 143 to 26. Similar progress was made in the BRAC program, with unevaluated sites decreasing from 695 to 290. These evaluations are essential to cleanup efforts at installations because they are used as a tool in sequencing cleanup efforts. While not exclusively an Army achievement, the Pennsylvania multisite agreement achieved by DoD, the military components, and the





Commonwealth of Pennsylvania will significantly benefit the Army's extensive cleanup efforts in the state. This pact is the first cooperative multisite cleanup agreement between DoD and a state.

## Installation Achievements

At individual installations the Army reaped the benefit of strong partnerships with regulators and the public. Army reassessment of existing and planned groundwater treatment systems was also beneficial.

At Twin Cities Army Ammunition Plant (TCAAP) in New Brighton, Minnesota, several years of effort culminated in the signing of the installationwide Record of Decision (ROD), the last remedy decision for the installation. The Army also recovered \$3.9 million from the insurance company for this government-owned, contractor-operated facility. These funds are now available to the Army's cleanup program for future cost recovery efforts.

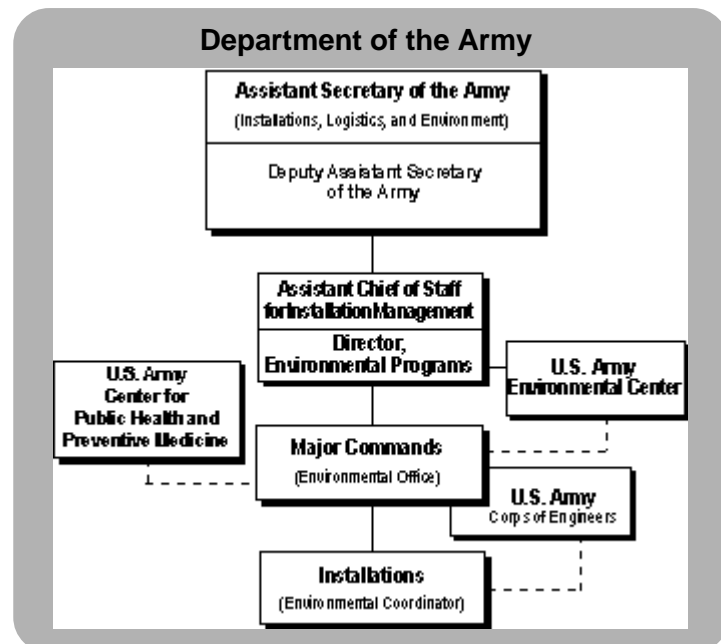
At Hunter Army Airfield in Georgia, the Army will recommend implementation of a monitored natural attenuation remedy instead of a costly pump-and-treat system, as part of an initiative to reassess planned groundwater treatment systems. If accepted by the environmental regulators and the local community, this recommendation could result in savings of \$5 million. A separate study of existing and proposed groundwater remediation systems at Riverbank Army Ammunition Plant in California resulted in a 40 percent reduction in operating costs and annual savings of \$1.2 million dollars.

Also in FY98, Schofield Barracks in Hawaii achieved the milestone of attaining "Construction Complete" status at all remediation projects. The Army has formally petitioned EPA to delete the Schofield Barracks from the National Priorities List (NPL). NPL deletion is anticipated by the end of FY99.

At Fort Dix, the Army worked closely with EPA Region 2 and state regulators to obtain agreement on designating the NPL-listed landfill Construction Complete. The Army will pursue NPL deletion of this installation with EPA in FY99.

## Management Initiatives and Improvements

In FY98, the Army expanded on its independent technical review (ITR) program, which was piloted at four BRAC installations in FY97. The ITR program involves a 1- to 2-week review of the technical, administrative, and managerial aspects of an installation's cleanup program by a panel of Army and non-Army experts. Advice emerging from the reviews ranges from specific remedies for individual cleanup sites to ideas on how to negotiate with regulators and the public on controversial issues. Findings and recommendations are not final until acceptance by the regulatory agencies and receipt of input from the local community. In FY98, the Army conducted reviews at 10 more BRAC installations and piloted the ITR program at 2 active installations. The 14 BRAC installations reviewed through the program were together responsible for a \$39 million reduction in BRAC FY99 and FY00 work plan requirements. This cost-avoidance represents a 30 to 1 return on investment for the ITRs. The Army plans to conduct independent technical reviews at 12 BRAC installations and 8 active installations in FY99.





## **Cleanup Program in Action: Army Independent Technical Review**

The Army's Independent Technical Review is a third-party, project-level technical review program that provides recommendations for investigations and cleanup plans. The ITR process gives remedial project managers (RPMs) and installation leadership access to some of the nation's most respected environmental experts in a variety of environmental disciplines. The panel reviews specific projects to determine whether the investigative approach and the proposed actions are technically sound. It then supplies the RPMs' leadership with technical recommendations on the appropriate course(s) of action. The panel's recommendations are intended to improve decision making and to support technically sound initiatives. In addition to making recommendations, the ITR subject matter experts provide technical assistance to address specific issues identified during the reviews.

The overall objective of the ITR is to ensure the implementation of cost-effective investigations and remedies, while meeting the Army's obligation to protect human health and the environment. The ITR may validate planned actions on the basis of technical merit or recommend alternatives that are more effective or less costly. The recommendations help the installation determine the appropriate course of action and present a credible case for those decisions to regulators and the public. Findings and recommendations are not final until acceptance by the regulatory agencies and receipt of input from the local community.

The Army expanded the ITR program that was piloted at four BRAC installations in FY97. The Army conducted the reviews at 10 more BRAC installations and piloted the reviews at 2 active installations.

The Army also initiated an effort to optimize use of resources dedicated to operating and maintaining groundwater treatment systems. The Army currently operates major groundwater pump-and-treat systems at 35 installations, with annual system operating costs totaling approximately \$25 million. The average construction cost for each of these major systems is approximately \$3 million, and the systems have a design life of at least 30 years. Of the systems that have a definable treatment objective, more than 50 percent were designed to contain plumes rather than to restore aquifers. In FY98, the Army began reassessing the effectiveness of the most expensive of its groundwater treatment systems. The goal of this initiative was to identify where system improvements, closure, or substitution of alternative technologies might be warranted. Any modifications would have to establish or meet treatment objectives, protect human health and the environment, reduce long-term operations and maintenance requirements, and maximize the cost-effectiveness of the remedy. In some cases, it was believed that existing treatment systems might be ineffective or marginally effective. Such systems could be replaced with less costly in situ systems or supplemented through proven natural attenuation processes. The Army has also begun to reassess plans for almost 70 additional pump-and-treat systems.

## Information and Technology Transfer

In FY98, the Army greatly improved the quality and consistency of the data required for managing and reporting on restoration activities at its installations. Historically, ensuring that Army installations, major commands, and headquarters all have, and are reporting, the same data has been a challenge. To address this problem, the Army moved its data collection to a Web-based system. Installations can now access the database directly from their workstations, updating data elements as necessary. Management at the major commands and headquarters can access the data and perform quality control and queries. The Army also integrated the BRAC Cleanup Plan Abstracts into this system, so that planning and data collection for active and BRAC installations both reside on the same system. Previously, substantial quality control efforts and expenditure of resources were needed to ensure that the data contained in the abstracts were consistent with the information in the database and vice versa. This problem has been virtually eliminated with the new Web-based system. The current DERP Annual Report to Congress represents the debut data collection effort with this system. The results were encouraging: data accuracy was much better than expected, especially since installations were just learning the new methodology.

During the past year, the Army also has been actively supporting the initiatives of the Federal Remediation Technologies Roundtable (FRTR). The FRTR is sponsored by EPA's Technology Innovation Office and is a cooperative effort of federal agencies with environmental restoration requirements. In FY98, the Army Environmental Center took the lead in making the FRTR-developed Restoration Technologies Screening Matrix and Guide available on the World Wide Web. Formerly available only in hard copy, this reference is now available to federal agency remediation project managers, contractors, and academics over the Internet. The reference provides guidance on identifying and selecting appropriate available technologies for cleaning up all types of contamination. The Army Corps of Engineers Center of Expertise for Hazardous and Toxic Waste developed the home page, as well as links for the FRTR Web site.

## Outreach

In FY98, the Army held outreach meetings in five of the EPA regions. These forums bring together Army major command and headquarters managers and the region's EPA and state regulators. The meetings cover such topics as program goals, budgeting, community involvement, partnering, innovative technologies, case studies, and regulatory issues. The Army hopes to have outreach meetings in the other five EPA regions in FY99.

Partnerships with regulators and the community in FY98 produced substantial benefits for the Army's program. At Fort Wainwright in Alaska, for example, excellent teaming relationships with regulators and coordination on the revision of the final operable unit's ROD resulted in an expedited review of this document. The ROD is now in the final draft stages. At the Tobyhanna Army Depot in Pennsylvania, successful partnering with EPA and state regulators resulted in one closeout document for 35 No Further Action sites instead of two RODs as originally planned, saving both time and money. Partnering initiatives at Redstone Arsenal in Alabama with EPA Region 4 and the



Alabama Department of Environmental Management improved document review time and resulted in more effective, faster decision making.

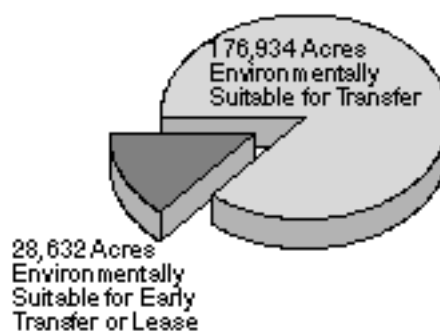
The Army continues to demonstrate good faith and commitment to working with local communities, sharing cleanup program information as it is learned and receiving input regarding project priority, sequence of project implementation, and funding allocation. The Army has learned that Restoration Advisory Boards (RABs) can be an effective tool for obtaining this community insight and advice. By the end of FY98, the Army had established 64 RABs, and five RABs were established during the fiscal year. The Army continues to evaluate community interest in establishing RABs at additional installations to ensure that it can fully benefit from community involvement in its cleanup program.

## BRAC Highlights

At BRAC installations, the Army continues to work with local communities and local reuse authorities to accomplish transfer of property. In FY98, the Army initiated the NPL deletion of a 37-acre parcel at the Army Research Laboratory in Watertown, Massachusetts. This action will greatly enhance the value of the property transferred. The local reuse authority has agreed to maintain the land use controls that were implemented as part of the remedy at the installation. Use of land use controls also enabled the Army to transfer a parcel with groundwater contamination at Letterkenny Army Depot, Pennsylvania. Use of such controls has been a matter of concern to local communities, because of the need to ensure that the controls will be maintained when the Army no longer occupies the BRAC installation. To allay such concerns, the Army issued an interim policy addressing how land use controls will be documented and maintained after transfer of property. This policy establishes a benchmark for all DoD activities, since DoD intends to provide guidance to all military components on this issue.

In an additional milestone for the Army BRAC program, the Army negotiated its first use of the CERCLA §120(h)(3)(C) early transfer authority. The actual early transfer of a 1,621-acre parcel at Tooele Army Depot in Utah occurred in December 1998. The BRAC program continues to stress expediting environmental responses to meet property transfer goals and is using removal authority to a greater extent in order to achieve these goals.

**Environmental Condition  
of BRAC Property**



The BRAC ITR program produced savings at several installations, most prominently at Savanna Army Depot in Illinois, where the ITR recommended no further action, based on minimal risk, at an old burning ground on a small island in the Mississippi River. A removal action with a life-cycle cost of approximately \$68 million dollars (and FY99 and FY00 costs of approximately \$25 million) had been planned at the site. Based on the minimal evidence of unacceptable risk to human health or the environment, the ITR determined this action to be unnecessary.